

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IFW

In re Applicant:

Dena LESHKOWITZ

Serial No.: 10/591,442

Filed: September 01, 2006

For: QUANTIFYING AND PROFILING ANTIBODY
AND T CELL RECEPTOR GENE EXPRESSION

Examiner: Not Yet Assigned



§
§
§
§
§
§
§
§
§
§
§

Group Art Unit: 1653

Attorney
Docket: 32488

Mail Stop Amendments
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

Enclosed is a PTO Form 1449 which lists citations which may be material to the patentability and examination of the above identified application. Also enclosed are copies of the references cited. These are submitted in compliance with the duty of disclosure defined in 37 CFR 1.56. The Examiner is requested to make these citations of official record in this application.

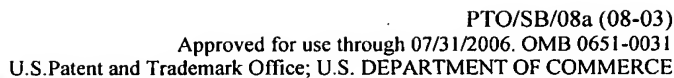
This Information Disclosure Statement under 37 CFR 1.56 is not to be construed as a representation that a search has been made, that additional matter which is material to the examination of this application does not exist, or that any or more of these citations constitutes prior art.

Respectfully submitted,

Martin D. Moynihan

Martin D. Moynihan
Registration No. 40,338

Dated: June 21, 2007



INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Complete if Known

Sheet	1	of	4
-------	---	----	---

[illegible][illegible]

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).

⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. this collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.

SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450



PTO/SB/08a (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

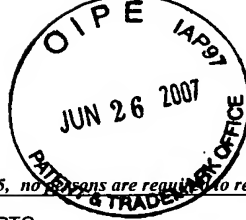
Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Complete if Known	
				Application Number	10/591,442
				Filing Date	September 01, 2006
				First Named Inventor	Dena LESHKOWITZ
				Group Art Unit	1653
				Examiner Name	Not Yet Assigned
Sheet		Of	4	Attorney Docket Number	32488
OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS					
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.			T ²
	8	Cowie et al. "Identification of APC Gene Mutations in Colorectal Cancer Using Universal Microarray-Based Combinatorial Sequencing-by-Hybridization", Human Mutation, 24: 261-271, 2004.			
	9	De Saizieu et al. "Bacterial Transcript Imaging by Hybridization of Total RNA to Oligonucleotide Arrays", Nature Biotechnology, 16: 45-48, 1998.			
	10	Demoulins et al. "The Same TCR (N)DBeta(N)JBeta Junctional Region is Associated with Several Different VBeta13 Subtypes in a Multiple Sclerosis Patient at the Onset of the Disease", Neurobiology of Diseases, 14:470-482, 2003.			
	11	Drmanac et al. "Sequencing by Hybridization (SBH): Advantages, Achievements and Opportunities", Biotechnology, 77: 76-101, 2002.			
	12	Ferrando et al. "Gene Expression Profiling: Will it complement or Replace Immunophenotyping?", Best Practice & Research Clinical Hematology, 16(4): 645-652, 2003.			
	13	Fraser et al. "The VH Gene Repertoire of Splenic B Cells and Somatic Hypermutation in Systemic Lupus Erythematosus", Arthritis Research & Therapy, 5(2): 114-121, 2003.			
	14	Frieze et al. "Optimal Reconstruction of a Sequence from its Probes", Journal of Computational Biology, 6(3/4): 361-368, 1999.			
	15	Gasparotto et al. "Hepatitis C Virus, B-Cell Proliferation and Lymphomas", Leukemia & Lymphoma, 43(4): 747-751, 2002. Abstract.			
	16	Gerry et al. "Universal DNA Microarray Method for Multiplex Detection of Low Abundance Point Mutations", J. Mol. Biol., 292: 251-262, 1999.			
	17	Hodges et al. "Diagnostic Role of Tests for T Cell Receptor (TCR) Genes", J Clin Pathol, 56: 1-11, 2003.			
	18	Kienle et al. "VH Mutation Status and VDJ Rearrangement Structure in Mantle Cell Lymphoma: Correlation With Genomic Aberrations, Clinical Characteristics, and Outcome", Blood, 102(8):3003-3009, 2003.			
	19	Kienle et al. "Distinct Gene Expression Patterns in Chronic Lymphocytic Leukemia Defined by Usage of Specific VH Genes", Blood, 107(5):2090-2093, 2006.			
	20	Kotlan et al. "Immunoglobulin Repertoire of B Lymphocyte Infiltrating Breast Medullary Carcinoma", Human Antibodies, 12(4): 113-121, 2003. Abstract.			
	21	Link et al. "Clues to Etiology of Autoimmune Diseases Through Analysis of Immunoglobulin Genes", Arthritis research, 4:80-83, 2002.			
	22	Messmer et al. "The Pattern and Distribution of Immunoglobulin VH Gene Mutations in Chronic Lymphocytic Leukemia B Cells are Consistent With the Canonical Somatic Hypermutation Process", Blood, 103(9):3490-3495, 2004.			
Examiner Signature				Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).

⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.

SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450



PTO/SB/08a (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

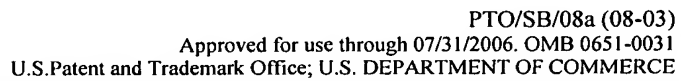
Substitute for form 1449A/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	10/591,442
				Filing Date	September 01, 2006
				First Named Inventor	Dena LESHKOWITZ
				Group Art Unit	1653
				Examiner Name	Not Yet Assigned
Sheet		Of	4	Attorney Docket Number	32488
OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS					
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.			T ²
	23	Mockridge et al. "Common Patterns of B Cell Perturbation and Expanded V4-34 Immunoglobulin Gene Usage in Autoimmunity and Infection", Autoimmunity, 37(1): 9-15, 2004. Abstract.			
	24	Ogle et al. "Direct Measurement of Lymphocyte Receptor Diversity", Nucleic Acids Research, 31(22):1-6, 2003.			
	25	Ohlin et al. "The Human Antibody Repertoire to Infectious Agents: Implications for Disease Pathogenesis", Molecular Immunology, 40:1-11, 2003.			
	26	Pascual et al. "Heavy Chain Variable Region Gene Utilization in Human Antibodies", International Reviews in Immunology, 5(3-4): 231-238, 1990. Abstract.			
	27	Preparata et al. "Sequencing-by-Hybridization at the Information - Theory Bound: An Optimal Algorithm", Journal of Computational Biology, 7(3/4):621-630, 2000.			
	28	Quackenbush "Microarray Data Normalization and Transformation", Nature Genetics Supplement, 32:496-501, 2002.			
	29	Quintana et al. "Functional Immunomics: Microarray Analysis of IgG Autoantibody Repertoires Predicts the Future Response of Mice to Induced Diabetes", Proc. Natl. Acad. Sci. USA, P.1-7, 2004.			
	30	Risitano et al. "In-Vivo Dominant Immune Responses in Aplastic Anaemia: Molecular Tracking of Putatively Pathogenetic T-Cell Clones by TCR Beta-CDR3 Sequencing", http://www.thelancet.com , 364:355-364, 2004.			
	31	Ritgen et al. "Unmutated Immunoglobulin Variable Heavy-chain Gene Status Remains an Adverse Prognostic Factor After Autologous Stem Cell Transplantation for Chronic Lymphocytic Leukemia", Blood, 101(5): 2049- 2053, 2003.			
	32	Sade et al. "The Effect of Specific Immunotherapy on T-Cell Receptor Repertoire in Patients With Allergy to House-Dust Mite", Allergy, 58:430-434, 2003.			
	33	Shendure et al. "Advanced Sequencing Technologies: Methods and Goals", Nature Reviews, 5:335-344, 2004.			
	34	Shi "Enabling Large-Scale Pharmacogenetic Studies by High-Throughput Mutation Detection and Genotyping Technologies", Clinical Chemistry, 47(2):164-172, 2001.			
	35	Sims et al. "Somatic Hypermutation and Selection of B Cells in Thymic Germinal Centers Responding to Acetylcholine Receptor in Myasthenia Gravis", Journal of Immunology, 167:1935-1944, 2001.			
	36	Tobin et al. "Subsets With Restricted Immunoglobulin Gene Rearrangement Features Indicate A Role for Antigen Selection in the Development of Chronic Lymphocytic Leukemia", Blood, 104(9):2879-2885, 2004.			
	37	Tobin et al. "V(H)3-21 Gene Usage in Chronic Lymphocytic Leukemia -- Characterization of A New Subgroup With Distinct Molecular Features and Poor Survival", Leukemia and Lymphoma, 45(2): 221-228, 2004. Abstract.			
Examiner Signature				Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).

⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. this collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.

SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450



INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Complete if Known

Application Number	10/591,442
Filing Date	September 01, 2006
First Named Inventor	Dena LESHKOWITZ
Group Art Unit	1653
Examiner Name	Not Yet Assigned

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14, this collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.

SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450